

### **Abstract**

A fast, low-complexity detection scheme for determining the delays and gains of different propagation paths (i.e., multi-paths) of a received WCDMA signal. The method utilizes a continuous pilot channel that is scrambled by an known pseudo-random sequence. The received signal is provided to a multi-path searcher that passes the received signal through a matched filter with a specified number of taps. The matched filter correlates the received signal with the pilot channel. The multi-path gain and delay detection is then performed, and the delays and gains are reported for use in the WCDMA system.

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